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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/402,049	01/10/2000	NIDHAM BEN RACHED	920569-905293	5474

7590

04/19/2004

Barnes & Thornburg
PO BOX 2786
CHICAGO, IL 60690-2786

EXAMINER

ABELSON, RONALD B

ART UNIT	PAPER NUMBER
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2666

15

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/402,049

Applicant(s)

BEN RACHED, NIDHAM

Examiner

Ronald Abelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-5 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. Withdrawal of Finality

The indicated allowability of claims 3-5 and 9 is withdrawn in view of the newly discovered reference(s) to Letaief.

Rejections based on the newly cited reference(s) follow.

Therefore, the finality of the prior office action is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 3-5 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Bryan (US 5,561,468) in view of Letaief (US 5,960,032).

Regarding claim 3, Bryan teaches a method and apparatus for receiving packets (fig. 5) of a predetermined length (col. 3 lines 39 - 42).

The received packet being either a first type of packet (fig. 1: packet containing long training sequence 11) or a second type (fig.1: packet containing short training sequence 12) and comprising a respective first or second training sequence together with a respective first (fig. 1, data portion attached to main header) or second (fig. 1, data portion attached to additional header) information sequence, the second information sequence being longer than the first information sequence.

Regarding the limitation the second information sequence being longer than the first information sequence, Bryan teaches the packets lengths for both packet types may be equal (col. 3 lines 39 - 42). Therefore, in this instance, the information sequence for the second packet type is longer than for the first packet type since the second packet type does not contain an alteration sequence and the second packet type's training sequence is shorter than the first's.

The system comprises a detector means (fig. 5 box 190, col. 7 lines 63-65) for isolating the information sequence of the received packet in response to a selection signal identifying the type of packet and said training sequence (fig. 5 box 160, col. 7 lines 60-63). Note, the training sequence processor, fig. 5 box 160, identifies the training sequence as long or short.

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The system comprises a single demodulator means for demodulating packets of both types (fig. 5 box 190).

Regarding claim 9, Bryan teaches a method and apparatus for transmitting packets (fig. 2) of a predetermined length (col. 3 lines 39 - 42).

The apparatus comprising formatting suitable for formatting a first type of packet (fig. 1, packet containing a main header) on the basis of a first training sequence (fig. 1 box 11) and of a first information sequence (fig. 1, data portion attached to main header).

The apparatus sends a second type of packet having a second information sequence longer than the first information sequence (fig. 1, data portion attached to additional header), and a corresponding second training sequence that has a same length as a subsequence of the first training sequence (fig. 1 box 12).

The packet type, long or short training sequence, is identified by an identification signal. Note, the training sequence processor, fig. 5 box 160, identifies the training sequence as long or short.

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Regarding claims 3 and 9, although Bryan teaches the second training sequence is a shortened version of the first (col. 6 lines 4-8), the reference does not explicitly state, the second / training sequence corresponds to a subsequence of the first training sequence, as specified in claim 3 and the second training sequence being orthogonal to subsequences of the same length of the first training sequence, as specified in claim 9.

Letaief teaches a training waveform (col. 1 lines 56-58) based upon Walsh codes (col. 2 lines 51-53). Walsh codes exhibit the properties of a shorter Walsh code is a subsequence of a longer Walsh code which the examiner corresponds to the limitation of claim 3 above and a shorter Walsh code is orthogonal to a subsequence of the same length of a longer Walsh code which the examiner corresponds to the limitation of claim 9 above. For a table of Walsh codes, Gilhousen: US (6,185,246) Table 1 is provided.

Therefore it would have been obvious to one of ordinary skill in the art, having both Bryan and Letaief before him/her and with the teachings [a] as shown by Bryan, transmitting/receiving packets containing a training sequence for synchronization wherein the training sequence may be long or

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short, and [b] as shown by Letaief, a training waveform based upon Walsh codes, to be motivated to modify the system of Bryan by using Walsh codes instead of Cazac sequences for the long and short training sequences. This modification can be performed in software. This would improve the system since Walsh codes are orthogonal and thus minimize interference.

Regarding claim 4, the information sequence of the different packets result from encoding of the same kind (Bryan: fig. 2 box 44), and the apparatus comprises a single decoding means for decoding both the first and second information sequences (fig. 5 box 310, 350, 320, 360). Note boxes 310 and 350 are for video data and boxes 320 and 360 are for audio data.

Regarding claim 5, the second information sequence contains more information than the first information sequence. As mentioned above, the second information sequence is longer than the first, therefore the examiner maintains it contains more information.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald

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Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Ronald Abelson
Examiner
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